

Prealgebra Practice Test 5

1. Perform the indicated operations

(a) $3.25 + 0.87 + 16. =$

$\boxed{20.12}$

$$\begin{array}{r} 3.25 \\ 0.87 \\ 16.00 \\ \hline 20.12 \end{array}$$

(b) $-2.1 + 7.46 = \boxed{+5.36}$

$$\begin{array}{r} 7.46 \\ -2.10 \\ \hline 5.36 \end{array}$$

(c) $4.12 + (-3.15) =$

$4.12 - 3.15 = \boxed{0.97}$

$$\begin{array}{r} 4.12 \\ -3.15 \\ \hline 0.97 \end{array}$$

(d) $.009 \times .002 =$

$\boxed{0.000018}$

$$\begin{array}{r} .009 \\ \times .002 \\ \hline .000018 \end{array}$$

(e) $(-4.5)(-6.12) = +27.540$

$\boxed{27.54}$

$$\begin{array}{r} 45 \\ 612 \\ \hline 90 \\ + 450 \\ \hline 27000 \end{array}$$

(f) $(2.15)(-13.8) = -29.670$

$\boxed{-29.67}$

$$\begin{array}{r} 27540 \\ 215 \\ \times 138 \\ \hline 1720 \\ 645 \\ 215 \\ \hline 29670 \end{array}$$

g $7.24^{\text{in}} \div 12^{\text{out}} = \boxed{0.60\overline{3}}$

12) 0.603333...

7.2400

- 7.2

40

- 36

40

① $(-2400) \div 25$
 $-24000 \div 25 = \boxed{-960}$

$$\begin{array}{r} 25 \overline{) 2400} \\ \underline{225} \\ 150 \\ \underline{150} \\ 0 \end{array}$$

⑥ $(-63, 12) \div (-2, 4) = +26,3$

$$\begin{array}{r} 26.3 \\ 24 \overline{) 631.2} \\ \underline{-48} \\ 151 \\ \underline{-144} \\ 72 \\ \underline{-72} \\ 0 \end{array}$$

② Round the following numbers to the nearest ten, hundred, and thousand place:

(a) $456,78\overset{\text{ones}}{\underset{\text{tens}}{2}}$

$2 > 5$

$2 < 5$ $456,780$

~~8~~ $456,7\overset{\text{tens}}{8}2$

$8 > 5$ $456,800$
 ~~$8 < 5$~~

$45\overset{\text{hundreds}}{6}782$

$7 > 5$ ~~456~~
 ~~$2 < 5$~~ $457,000$

(b) $738,24\overset{\text{tens}}{9}$

$9 > 5$ $738,250$
 ~~$9 < 5$~~

$738,2\overset{\text{hundreds}}{4}9$

$4 > 5$ $738,200$
 $4 < 5$

$738\overset{\text{thousands}}{2}49$

$2 < 5$ $738,000$
 ~~$2 > 5$~~

③ Round the following numbers to the nearest tenth, hundredth, and thousandth place:

(a) $456.\overset{\text{hundredth}}{78}26$
 $+11$

$8 > 5$
 $8 < 5$

456.8

$456.\overset{\text{thousandth}}{78}26$

$2 > 5$
 $2 < 5$

456.78

$456.\overset{\text{thousandth}}{782}6$
 $+1$

$6 > 5$

456.783

⑥ 73.8247

73.8 $\overline{247}$

73.82 $\overline{47}$

73.824 $\overline{7}$
+1

2 < 5 $\boxed{73.8}$

4 < 5 $\boxed{73.82}$

7 > 5 $\boxed{73.825}$

- ④ A circle has a radius of 20 inches.
What is the circumference of the circle?
(use 3.14 for π & round to the nearest hundredth when necessary.)



$C = 2\pi r$

$\pi = 3.14$

$r = 20$

$C = 2(3.14)(20)$

$C = 125.60$

$\boxed{C = 125.6 \text{ in}}$

$\begin{array}{r} 40 \\ 314 \\ \hline 12560 \end{array}$

$\boxed{\text{The circumference is } 125.6 \text{ in}}$

- ⑤ A circle has a diameter of 20 meters.
What is the circumference of the circle



$C = 2\pi r$

$C = \pi d$

$\pi = 3.14$

$r = \frac{20 \text{ m}}{2} = 10 \text{ m}$

$C = 2(3.14) \cdot 10$

$C = 62.80$

$\boxed{C = 62.8 \text{ m}}$

$\boxed{\text{The circumference is } 62.8 \text{ m}}$

$\begin{array}{r} 314 \\ 20 \\ \hline 6280 \end{array}$

⑥ Write as a decimal, use $\overline{}$ to express any repeating decimals.

$$\textcircled{a} \quad 15 \frac{3}{8} = \boxed{15.375}$$

$$\begin{array}{r} 0.375 \\ 8 \overline{) 3.000} \\ \underline{24} \\ 60 \\ \underline{56} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

$$\textcircled{b} \quad 7 \frac{2}{3} = 7.\overline{6}$$

$$\begin{array}{r} .666 \\ 3 \overline{) 2.000} \\ \underline{18} \\ 20 \\ \underline{18} \\ 20 \\ \underline{18} \\ 20 \end{array}$$

⑦ Write as a reduced fraction:

$$\textcircled{a} \quad 0.675 = \frac{675}{1000} = \frac{27 \cdot 25}{25 \cdot 40} = \boxed{\frac{27}{40}}$$

$$\begin{array}{r} 27 \\ 25 \overline{) 675} \\ \underline{50} \\ 175 \\ \underline{175} \\ 0 \end{array}$$

$$\textcircled{b} \quad 2.46 = \frac{246}{100} = \frac{2 \cdot 123}{2 \cdot 50} = \frac{123}{50} = \boxed{2 \frac{23}{50}}$$

⑧ Place $>$, $<$ or $=$ between the numbers.

① $\frac{3}{4} \text{ (} < \text{) } 0.752$

$$\frac{3}{4} = 0.750 < 0.752 \quad 4 \overline{) 3.000}$$

$$\begin{array}{r} 0.75 \\ 4 \overline{) 3.000} \\ \underline{28} \downarrow \\ 20 \\ \underline{20} \\ 0 \end{array}$$

② $\frac{3}{5} \text{ (} > \text{) } 0.599$

$$\frac{3}{5} = 0.600 > 0.599 \quad 5 \overline{) 3.00}$$

$$\begin{array}{r} 0.6 \\ 5 \overline{) 3.00} \\ \underline{30} \\ 0 \end{array}$$

③ $\frac{2}{9} \text{ (} = \text{) } 0.\overline{2}$

$$\frac{2}{9} = 0.\overline{2} = 0.\overline{2} \quad 9 \overline{) 2.000}$$

$$\begin{array}{r} 0.\overline{2} \\ 9 \overline{) 2.000} \\ \underline{18} \\ 20 \\ \underline{18} \\ 20 \end{array}$$

⑨ Solve the following equations:

① $\boxed{-3.5x} - 2.2 = 11.8$

$$-3.5x - \cancel{2.2} + \cancel{2.2} = 11.8 + 2.2$$

$$\frac{-3.5x}{-3.5} = \frac{14.0}{-3.5}$$

$$\boxed{x = -4}$$

Check!

$$35 \overline{) 140}$$

$$\begin{array}{r} 4 \\ 35 \overline{) 140} \\ \underline{140} \\ 0 \end{array} \quad 2$$

$$\begin{array}{r} 11.8 \\ + 2.2 \\ \hline 14.0 \end{array}$$

$$\textcircled{b} \quad \underline{6x} + 10.5 = \underline{x} + 21$$

$$6x + 10.5 - x = \cancel{x} + 21 - \cancel{x}$$

$$\underline{5x} + 10.5 = 21$$

$$5x + 10.5 - 10.5 = 21 - 10.5$$

$$\frac{5x}{5} = \frac{10.5}{5}$$

$$\boxed{x = 2.1}$$

$$\begin{array}{r} 2.1 \\ 5 \overline{) 10.5} \\ \underline{10 \downarrow} \\ 5 \end{array}$$

$$\begin{array}{r} 21.0 \\ - 10.5 \\ \hline 10.5 \end{array}$$

$$\textcircled{c} \quad \underline{0.15x} + 0.23 = 1.43$$

$$0.15x + \cancel{0.23} - \cancel{0.23} = 1.43 - 0.23$$

$$\frac{\underline{0.15x}}{\underline{0.15}} = \frac{1.20}{0.15}$$

$$\boxed{x = 8}$$

$$\begin{array}{r} 8 \\ 15 \overline{) 120} \\ \underline{120} \\ 0 \end{array}$$

$$\begin{array}{r} 1.43 \\ - 0.23 \\ \hline 1.20 \end{array}$$

\textcircled{d}

$$2(\overset{\curvearrowright}{x} + \overset{\curvearrowright}{3.2}) = x + 9.9$$

$$\underline{2x} + 6.4 = \underline{x} + 9.9$$

$$2x - x + 6.4 = \cancel{x} - \cancel{x} + 9.9$$

$$x + 6.4 = 9.9$$

$$x = 9.9 - 6.4$$

$$\boxed{x = 3.5}$$

$$\begin{array}{r} 9.9 \\ - 6.4 \\ \hline 3.5 \end{array}$$

⑩ Write 24.4% as a decimal

$$\% = \frac{1}{100}$$
$$24.4\% = \frac{24.4}{100} = \boxed{0.244}$$

⑪ Write $\frac{5}{16}$ as a percent

$$\begin{array}{r} 0.3125 \\ 16 \overline{) 5.0000} \\ \underline{48} \\ 20 \\ \underline{16} \\ 40 \\ \underline{32} \\ 80 \\ \underline{80} \\ 0 \end{array}$$

$$\frac{5}{16} = 0.3125 =$$

$$= \boxed{31.25\%}$$

⑫ Write 31.6% as a fraction in lowest term.

$$31.6\% = \frac{31.6}{100} = \frac{316}{1000} = \frac{79 \cdot 4}{250 \cdot 4} = \boxed{\frac{79}{250}}$$

$$\begin{array}{r} 79 \\ 4 \overline{) 316} \\ \underline{28} \\ 36 \\ \underline{36} \\ 0 \end{array}$$

⑬ 96 is 80% of what number?

$$96 = \frac{80}{100} \cdot x$$

$$\boxed{96 \text{ is } 80\% \text{ of } 120}$$

$$\left(\frac{10}{8}\right) \left(\frac{8}{10}\right) x = 96 \left(\frac{10}{8}\right)$$

$$x = 12(10) = \boxed{120}$$

⑭ What percent of 280 is 70?

$$\frac{x}{100} \cdot 280 = 70$$

$$\left(\frac{10}{28}\right) \left(\frac{280}{100}\right) x = 70 \left(\frac{10}{28}\right)$$

$$x = \frac{70 \cdot 10}{28}$$

$$x = \frac{100}{4} = \boxed{25}$$

25 percent of 280 is 70

⑮ Find 120% of 36

$$\frac{120}{100} \cdot 36 = \frac{12 \cdot 36}{10}$$

$$= \frac{432}{10} = \boxed{43.2}$$

43.2 is 120% of 36

$$\begin{array}{r} 36 \\ 12 \\ \hline 72 \\ 36 \\ \hline 432 \end{array}$$

The End

Good Luck!